



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,973	11/04/2003	Vince Winstead	81044474 (202-0383)	4494
32997	7590	01/09/2007		
TUNG & ASSOCIATES 838 WEST LONG LAKE, SUITE 120 BLOOMFIELD HILLS, MI 48302			EXAMINER YUAN, DAH WEI D	
			ART UNIT	PAPER NUMBER
			1745	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/09/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

C

Office Action Summary

Application No.

10/700,973

Applicant(s)

WINSTEAD, VINCE

Examiner

Dah-Wei D. Yuan

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 7-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11042003</u> . | 6) <input type="checkbox"/> Other: _____ |

**METHOD OF OPERATING A HYBRID POWER SYSTEM
WITHIN A STATE OF CHARGE WINDOW**

Examiner: Yuan

S.N. 10/700,973

Art Unit: 1745

December 28, 2006

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-6, in Paper filed November 24, 2006 is acknowledged. The traversal is on the grounds that claims 1,7,10,15 essentially recite the same method steps. This is not found persuasive because if it can be shown that the two or more inventions are in fact independent, applicant should be required to restrict the claim presented to but one of such independent inventions. See MPEP 806.04. In particular, claims 1-6 are drawn to a method of controlling the operation of hybrid power system for supplying power to a load, claims 7-9 are drawn to a method of maintaining the state of charge of the charge carrier within a preselected range, claims 10-14 are drawn to a method of maintaining the battery pack's state-of-charge within a preselected range, and claims 15-19 are drawn to reducing fuel consumption in a fuel cell hybrid electric vehicle. The four distinct inventions have different functions as stated above. The requirement is still deemed proper and is therefore made FINAL. As a result, claims 7-19 are withdrawn from consideration.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention. The recitations “determining the state of charge” and “setting the power output” in claim 1, “the maximum voltage” and “the nominal state-of-charge” in claim 4, “the lumped system load power”, “the maximum power” in claims 5 and 6 lack antecedent basis in those claims.

4. The term “nominal” in claims 4 and 6 is a relative term which renders the claim indefinite. The term “nominal” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. See MPEP 2173.05(b).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Kopf et al. (US 6,744,237).

With respect to claim 1, Kopf et al. teach a method of controlling the operation of a hybrid power system comprising (A) determining the state-of-charge of the battery pack, (B) when the fuel cell supplies all of the power to the load as the state of charge of the energy storage

device falls below a second predetermined value (first value), and (C) when the fuel cell supplies at least a portion of the power to the load as the state of charge of the energy storage is less than or equal to the first predetermined value (second value). See Column 1, Lines 31-56.

With respect to claim 2, Kopf et al. teach device (26) is used to measure load currents. See Column 3, Lines 29-40.

With respect to claim 3, the steps (A) and (B) are repeated to maintain the state-of-charge of the battery as shown in Figure 2.

With respect to claim 4, Kopf et al. teach the first value is determined by the state-of-charge of the fuel cell. See Columns 4-6, Figure 2.

With respect to claims 5,6, Kopf et al. teach the second value is determined by the total power provided by the fuel cell and the energy storage device. See Columns 4-6, Figure 2.

7. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Iwasaki (US 2002/0162694).

With respect to claim 1, Iwasaki teaches a method of controlling the operation of a hybrid power system comprising (A) determining the state-of-charge of the battery (7) using a SOC sensor (13), (B) when the time average of the electrical load demand is less than the load corresponding to the maximum efficiency operating point of the fuel cell power system as the SOC of the battery is set to a first value, and (C) when the time average of electrical load demand exceeds the rated load of the fuel cell power system as the SOC of the battery is set to a second value. See Paragraphs 41-44.

With respect to claim 2, Iwasaki teaches the controller (10) is used to calculate the electrical load demand required to run the vehicle. See Abstract.

With respect to claim 3, the steps (A) and (B) are repeated to maintain the state-of-charge of the battery as shown in Figure 2.

With respect to claim 4, Iwasaki teaches teach the first value is determined by the state-of-charge of the fuel cell. See Paragraphs 42-52.

With respect to claims 5,6, Iwasaki teaches the second value is determined by the total power provided by the fuel cell and the energy storage device. See Paragraphs 42-52.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Art Unit: 1745

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dah-Wei D. Yuan
December 28, 2006

A handwritten signature in black ink, appearing to read 'Dahwei Yuan', with a stylized flourish at the end.

DAH-WEIYUAN
PRIMARY EXAMINER